
	Division of Environmental Health and Communicable Disease Prevention	
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## Campylobacteriosis

### **Overview** <sup>(1,2)</sup>

For a complete description of campylobacteriosis, refer to the following texts:

- Control of Communicable Diseases Manual (CCDM).
- Red Book, Report of the Committee on Infectious Diseases.

### **Case Definition** <sup>(3)</sup>

#### *Clinical description*

An infection that may result in diarrheal illness of variable severity.

#### *Laboratory criteria for diagnosis*

Isolation of *Campylobacter* from any clinical specimen.

#### *Case classification*

*Confirmed:* a case that is laboratory confirmed.

*Probable:* a clinically compatible case that is epidemiologically linked to a confirmed case.


### **Information Needed for Investigation**

- **Verify the diagnosis.** What laboratory tests were conducted and what were the results?
- **When investigating gastrointestinal illness of unknown etiology,** see the “Outbreak Investigation, Acute Gastroenteritis” section of this Manual.
- **Establish the extent of illness.** Determine if household or other close contacts are, or have been, ill by contacting the health care provider, patient or family member.
- **Contact the Regional Communicable Disease Coordinator,** if an outbreak is suspected, or if cases are in high-risk settings or jobs such as food handlers, child care, or health care.
- **Contact the Bureau of Child Care,** if cases are associated with a child care facility.

### **Case/Contact Follow Up And Control Measures**

Determine the source of infection to prevent other cases:

- Does the case or a member of the case's household attend a child care center or nursery school?
- Does the case or a member of the case's household work as a food handler or healthcare provider?
- Has the case traveled out of the country to an endemic area?

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- Does the case have contact with excreta from wild or domestic animals (including kittens or puppies)?
- Does the case work in poultry or other animal operations?
- Have there been other cases linked by time, place or person?


### Control Measures

- See the Control of Communicable Diseases Manual, *Campylobacter* Enteritis, “Methods of control.”
- See the Red Book, *Campylobacter* Infections, “Control Measures.”
- **Food Handlers and Health Care Personnel:**  
Because of the known risk of transmission of enteric pathogens from individuals with diarrhea, food handlers and symptomatic health care personnel with patient care responsibilities should **not** be permitted to work until the diarrhea has ended. Asymptotically infected food handlers or health care personnel need **not** be excluded from work, but the need for handwashing after defecation should be stressed.<sup>(4)</sup> Exclusion of asymptomatic, convalescent, stool-positive individuals is indicated only for those with questionable handwashing habits.<sup>(1)</sup>
- **Child Care Employees and Attendees:**  
Symptomatic childcare employees should **not** be permitted to work until the diarrhea has ended. The need for handwashing after defecation should be stressed. Exclusion of asymptomatic, convalescent, stool-positive individuals is indicated only for those with questionable handwashing habits.<sup>(1)</sup> Children with diarrhea should be excluded from child care, or cared for in a separate protected area until diarrhea has subsided.<sup>(2)</sup> In child care settings where children are not toilet-trained, it is prudent to treat with antibiotics. Symptomatic children should be excluded from child care for two days after beginning antibiotics or until the child is asymptomatic, whichever is the shorter period of time.<sup>(5)</sup> Proper hand washing technique after changing diapers and before food preparation is very important. Toys, countertops, and diaper changing areas should be cleaned more frequently, especially if used by children with diarrhea.<sup>(5)</sup>

All rules and guidelines regarding hand washing, toileting, diapering, and food handling, referenced in Licensing Rules for Group Day Care Homes and Child Day Care Centers<sup>(7)</sup> should be followed rigorously.

### Laboratory Procedures

**Specimens:** Diagnosis is based on culture of the organism from feces or blood. The cultured organism should be tested for antibiotic sensitivities. In addition, a rise in the IgG titer can be detected. The use of serologic methods for diagnosis is at present a research tool only. Use of PCR techniques for direct detection of specimens has been successful in research studies, but has not yet been applied to the clinical setting.<sup>(6)</sup>

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### Enteric cultures:

Collect specimens in Cary-Blair media using the enteric specimen collection kit supplied by the State Public Health Laboratory. Specimens should be shipped chilled.

Additional information on laboratory procedures can be obtained from the Regional Communicable Disease Coordinator or from the SPHL web site at:

<http://www.dhss.state.mo.us/Lab/index.htm>. (8 May 2003)


## Reporting Requirements

Campylobacteriosis is a Category II reportable disease and shall be reported to the local health authority or to the Missouri Department of Health and Senior Services (DHSS) within three days of first knowledge or suspicion by telephone, facsimile, or rapid communication.

1. For confirmed and probable cases, complete a "Disease Case Report" (CD-1) and a "Record of Investigation of Enteric Infection" (CD-2C) revised 6/02.
2. Entry of the completed CD-1 into the MOHSIS database negates the need for the paper CD-1 to be forwarded to the Regional Health Office.
3. Send the completed secondary investigation form to the Regional Health Office.
4. All outbreaks or "suspected" outbreaks must be reported as soon as possible (by phone, fax, or e-mail) to the Regional Communicable Disease Coordinator. This can be accomplished by completing the Missouri Outbreak Surveillance Report (CD-51).
5. Within 90 days from the conclusion of an outbreak, submit the final outbreak report to the Regional Communicable Disease Coordinator.

## References

1. Chin, James, ed. "*Campylobacter* Enteritis." Control of Communicable Diseases Manual, 17<sup>th</sup> ed. Washington, D.C.: APHA, 2000: 79-81.
2. American Academy of Pediatrics. "*Campylobacter* Infections." In: Pickering L., ed. 2000 Red Book: Report of the Committee on Infectious Diseases. 25<sup>th</sup> ed. Elk Grove Village, IL. 2000: 196-198.
3. Centers for Disease Control and Prevention. Case Definitions for Infectious Conditions Under Public Health Surveillance. MMWR 1997; 46 (No. RR-10). "Campylobacter Infection," 1990, <http://www.cdc.gov/epo/dphsi/casedef/campylobactercurrent.htm>. (8 May 2003)
4. Evans, AS and Brachman, PS, ed. Bacterial Infections of Humans Epidemiology and Control, 3<sup>rd</sup> ed. New York: Plenum, 1998: 169-190.
5. Donowitz, LG, ed Infection Control in the Child Care Center and Preschool, 4th ed. Baltimore: Waverly, 1999: 101-104.
6. Mandell, GL, Bennett, JE, and Dolin, R, ed Mandell Douglas and Bennett's Principles and Practice of Infectious Diseases, 5<sup>th</sup> ed; vol 2. New York: Churchill Livingstone, 2000: 2276-2285.

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7. Missouri Department of Health and Senior Services. 19 CSR 30-62-Health. Chapter 62-Licensing Rules for Group Day Care Homes and Child Day Care Centers.  
<http://www.sos.state.mo.us/adrules/csr/current/19csr/19c30-62.pdf>. (8 May 2003)

### **Other Sources of Information**

1. National Center for Infectious Diseases, *Campylobacter Infections*,  
[http://www.cdc.gov/ncidod/dbmd/diseaseinfo/campylobacter\\_g.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/campylobacter_g.htm). (8 May 2003)
2. Missouri Department of Health and Senior Services, *Community Data Profile*,  
<http://www.dhss.state.mo.us/GLRequest/CountyProfile.html>. (8 May 2003)
3. FDA/CFSAN Bad Bug Book, *Campylobacter jejuni*  
<http://www.cfsan.fda.gov/~mow/chap4.html>. (8 May 2003)
4. Karolinska Institutet (Swedish Medical School), Alphabetical Listing of Diseases and Disorders  
<http://www.mic.ki.se/Diseases/alphalist.html>. (8 May 2003)
5. *The Merck Veterinary Manual*. 8<sup>th</sup> Ed. Ed. Susan E. Aiello. Whitehouse Station, NJ: Merck & Co., Inc., 1998. <http://www.merckvetmanual.com/mvm/index.jsp> (search “campylobacter”). (8 May 2003)

# **CAMPYLOBACTER INFECTION**

(Campylobacteriosis)  
FACT SHEET

## **What is *Campylobacter*?**

*Campylobacter* is a bacterium that infects the intestines. It is the most common bacterial cause of diarrheal illness in the United States.

## **What are the symptoms?**

Symptoms are usually diarrhea (sometimes bloody), stomachache, fever, nausea and vomiting. The illness usually ends by itself within one week, but some people may require treatment with antibiotics.

## **How is *Campylobacter* spread?**

The bacteria are found in human and animal feces. It is very common in cattle and chickens. People can get it by eating or drinking raw or contaminated water, milk, poultry, meat, or from infected pets and other animals. It is very rare to get *Campylobacter* from another person who has it.

## **How long from when a person is infected until they get ill?**

Usually people get sick within two to five days of infection with these bacteria, but it can be as short as one day to as long as ten days before illness occurs.

## **How can *Campylobacter* infection be prevented?**

It can be prevented by properly cooking poultry and meats to at least 165° F; by thorough hand-washing with soap after using the toilet; before handling any food and after handling raw foods; only drinking pasteurized milk; and never drinking water from creeks, lakes, or springs.

## **Where can I get more information about campylobacteriosis?**

To find out more, call your doctor or local public health agency. Only a special laboratory test can tell if someone is infected.

**Missouri Department of Health and Senior Services  
Section for Communicable Disease Prevention  
Phone: (866) 628-9891 or (573) 751-6113**



MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES  
SECTION OF COMMUNICABLE DISEASE CONTROL AND VETERINARY PUBLIC HEALTH  
**RECORD OF INVESTIGATION OF ENTERIC ILLNESS**

MOHSIS CID#

**Information with shaded titles is not required if entered on the CD-1 report or entered into MOHSIS.**

NAME: (LAST, FIRST, MI)		DATE OF BIRTH:	AGE:	GENDER:	RACE:
		/ /			
PARENT(S) NAME IF NOT ADULT:		PHONE NO.:			
HOME ADDRESS:	CITY:	STATE:	ZIP CODE:	COUNTY:	

**EMPLOYMENT / CHILD CARE** (\*See reverse side for High-Risk Employment information.)

PLACE OF EMPLOYMENT:	ADDRESS:	PHONE NO.:	
OCCUPATION:	JOB DUTIES:		
SCHOOL / CHILD CARE ATTENDED:	GRADE OR ROOM:		
SCHOOL / CHILD CARE ADDRESS:	CITY:	STATE:	ZIP CODE:

**Symptoms:\*** (Check Yes or No and number the order in which symptoms first presented)

ORDER NO.	SYMPTOM	YES	NO	ORDER NO.	SYMPTOM	YES	NO	ORDER NO.	SYMPTOM	YES	NO
	Nausea	<input type="checkbox"/>	<input type="checkbox"/>		Bloody Diarrhea	<input type="checkbox"/>	<input type="checkbox"/>		Malaise	<input type="checkbox"/>	<input type="checkbox"/>
	Vomiting	<input type="checkbox"/>	<input type="checkbox"/>		Cramps	<input type="checkbox"/>	<input type="checkbox"/>		Headache	<input type="checkbox"/>	<input type="checkbox"/>
	Diarrhea	<input type="checkbox"/>	<input type="checkbox"/>		Chills	<input type="checkbox"/>	<input type="checkbox"/>		Dizziness	<input type="checkbox"/>	<input type="checkbox"/>
	Watery Diarrhea	<input type="checkbox"/>	<input type="checkbox"/>		Fever _____ °	<input type="checkbox"/>	<input type="checkbox"/>		Other		

**Disease**

DIAGNOSIS:	ONSET DATE / TIME:*	DURATION OF SYMPTOMS:	
	/ / _____ <input type="checkbox"/> am <input type="checkbox"/> pm	_____ hrs.	
INCUBATION PERIOD:*	PHYSICIAN CONSULTED?	DATE:	HOSPITALIZED?
	<input type="checkbox"/> Yes <input type="checkbox"/> No	/ /	<input type="checkbox"/> Yes <input type="checkbox"/> No
PROVIDER NAME:	CITY:	STATE:	PHONE NO.:
TREATMENT: (TYPE, AMOUNT)			DATE:*
			/ /
<input type="checkbox"/> Recovered <input type="checkbox"/> Died	DATE OF DEATH:	CAUSE OF DEATH:	
	/ /		

**Patient History** (Limit patient responses to within one disease incubation period.)


TRAVEL: (OUTSIDE OF HOME COMMUNITY)	DATE(S):*	LOCATION(S):
<input type="checkbox"/> Yes <input type="checkbox"/> No		
HOME WATER SUPPLY:		
<input type="checkbox"/> Private (type) _____ <input type="checkbox"/> Bottled Water (brand) _____		
<input type="checkbox"/> Public Water District (Name) _____ Other water sources: _____		
HOME SEWAGE DISPOSAL SYSTEM:		
<input type="checkbox"/> Private (type) _____ <input type="checkbox"/> Community System (Name) _____		
RECREATIONAL WATER CONTACT: (SWIMMING POOL, LAKE, RIVER, ETC.)		
<input type="checkbox"/> Yes <input type="checkbox"/> No Type: _____ Location: _____		
Dates: _____		
PET / ANIMAL EXPOSURE: (DOMESTIC PETS, LIVESTOCK, OTHER)		
<input type="checkbox"/> Yes <input type="checkbox"/> No Pets/Animals ill: <input type="checkbox"/> Yes <input type="checkbox"/> No Animal Type(s): _____		
Date(s)* of Animal Exposure: _____		
Describe Animal Exposure: _____		
Location of Animal Exposure: _____		
Comments: _____		

**Food\*\***

	NAME	STREET ADDRESS	CITY / STATE
Grocery stores routinely used:	_____	_____	_____
	_____	_____	_____
Restaurants routinely used:	_____	_____	_____
	_____	_____	_____
OTHER FOOD SOURCES: (e.g., ETHNIC, UNPASTEURIZED, HOME CANNED)		TYPE / LOCATION:	

\* Epi Calendar (reverse side) may be used to help determine time periods.  
\*\* Attach separate 3-day food history if multiple cases are known/suspected.

**Please submit this form along with completed CD-1 Report on all enteric cases.**

<b>Laboratory Tests*: Record Diagnostic Information in Section 41 of CD-1 Report and/or attach copy of lab slip(s)</b>										
Are there other associated cases? <input type="checkbox"/> Yes <input type="checkbox"/> No					If yes, how many?		How Associated:			
<b>List ill contacts:</b>										
NAME & ADDRESS	DOB / AGE	SEX	RELATION TO PATIENT	SIMILAR ILLNESS		ONSET DATE	LAB CONFIRMED		CD-1 AND ENTERIC FORM COMPLETED	
				YES	NO		YES	NO	YES	NO
				<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>High Risk Employment Information (e.g., Food Handler, Child Care or Health Care Worker)</b>										
SPECIFIC JOB DUTIES:*										
DATE(S) WORKED PRIOR TO ONSET OF ILLNESS:*						EXCLUDED FROM WORK? <input type="checkbox"/> Yes <input type="checkbox"/> No		DATE:*/   /   /		
IF YES, BY WHOM:					TITLE:					
FOLLOW-UP SPECIMEN(S) REQUIRED? <input type="checkbox"/> Yes <input type="checkbox"/> No		DATE COLLECTED:*/   /   /		RESULTS:*/ 1. _____ 2. _____ 3. _____						
LAB:			WERE CONTROL MEASURES DISCUSSED WITH PATIENT? <input type="checkbox"/> Yes <input type="checkbox"/> No				BY:			
RETURNED TO WORK? <input type="checkbox"/> Yes <input type="checkbox"/> No		DATE:*/   /   /		EXPECTED DATE:*/   /   /			EXCLUDED FROM HIGH-RISK DUTIES? <input type="checkbox"/> Yes <input type="checkbox"/> No			
SEXUAL PREFERENCE: <input type="checkbox"/> Heterosexual <input type="checkbox"/> Homosexual <input type="checkbox"/> Bisexual <input type="checkbox"/> Unknown <input type="checkbox"/> N/A									MULTIPLE PARTNERS? <input type="checkbox"/> Yes <input type="checkbox"/> No	
RECREATIONAL DRUG USE: <input type="checkbox"/> Yes <input type="checkbox"/> No		DRUGS OF CHOICE:								
<b>*Epi Calendar:</b>										
MONTH(S) / DATES:			YEAR:		DISEASE:			WORK:		
Sunday ____	Monday ____	Tuesday ____	Wednesday ____	Thursday ____	Friday ____	Saturday ____				
Sunday ____	Monday ____	Tuesday ____	Wednesday ____	Thursday ____	Friday ____	Saturday ____				
Sunday ____	Monday ____	Tuesday ____	Wednesday ____	Thursday ____	Friday ____	Saturday ____				
OTHER PERTINENT EPIDEMIOLOGICAL DATA (TO INCLUDE PROBABLE SOURCE):										
INVESTIGATOR: 								DATE COMPLETED:		